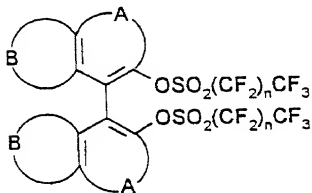


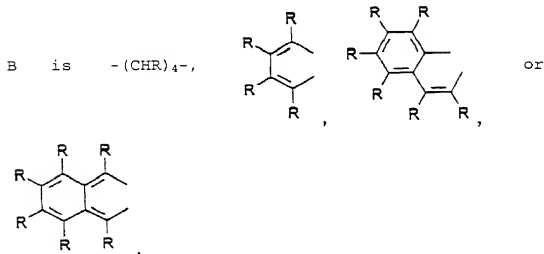
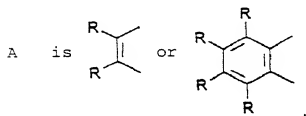
Claims

1. Bis(perfluoro-n-alkanesulfonates) of the formula I:



where

n is 3, 4, 5, 6, 7, 8 or 9,



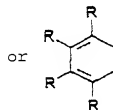
where nonadjacent groups =CR- may be replaced by =N-, and -CHR- may be replaced by -NR-, -O- or -S-

and

- 5 R is alkyl or alkoxy having from 1 to 12 carbon atoms, halogen, -CN, -CF₃, -OCF₃ or unsubstituted phenyl or phenyl which is monosubstituted or polysubstituted by alkyl or alkoxy having from 1 to 12 carbon atoms, halogen or -CN, where if more than one R is present the substituents R may be identical or different.

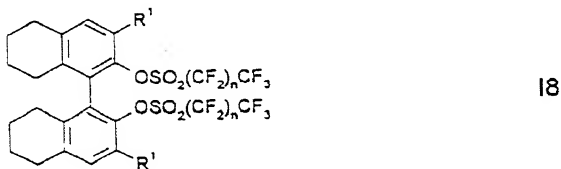
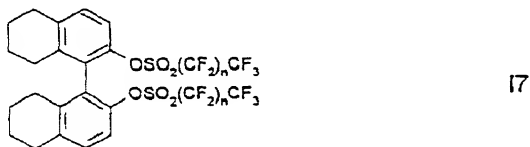
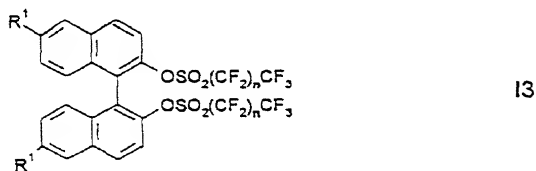
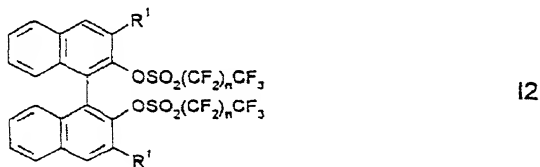
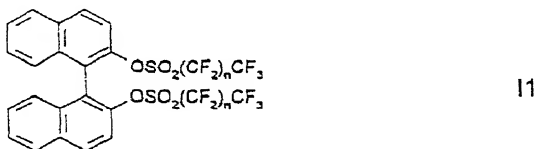
10

2. Compounds of the formula I according to Claim 1, characterized in that A is



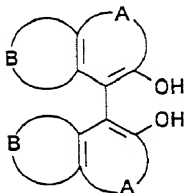
- 15 3. Compounds of the formula I according to Claim 1 or 2, characterized in that R is alkyl or alkoxy having from 1 to 7 carbon atoms, F, Br, CN, -CF₃, -OCF₃.

- 20 4. Compounds of the formulae I1, I2, I3, I7 and I8:



where n is as defined above and R^1 is alkyl or alkoxy having from 1 to 3 carbon atoms, F, Br, CF_3 or CN.

- 5 5. Process for preparing the bis(perfluoro-n-alkanesulfonates) of the formula I, characterized in that the compounds of the formula II:



II

10

where A and B are as defined in Claim 1 are reacted with perfluoro-n-alkanesulfonyl fluoride, chloride or anhydride in the presence of a base.

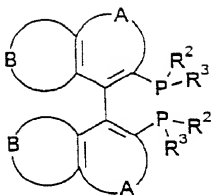
- 15 6. Process for preparing the compounds of the formula I according to Claim 5, characterized in that the compounds of the formula II are reacted with nonafluoro-n-butesulfonyl fluoride or perfluoro-n-octanesulfonyl fluoride in the presence of a base.

20

7. Process for preparing the compounds of the formula I according to Claim 5 or 6, characterized in that the base used is a pyridine, a pyrimidine, a pyridazine, a trialkylamine or a dialkylarylamine.

25

8. Use of the bis(perfluoro-n-alkanesulfonates) of the formula I for preparing diphosphines of the formula III:



119

where A and B are as defined above

and

R^2, R^3 are phenyl, 4-methylphenyl, 3-methylphenyl, 2-methylphenyl, 3,5-dimethylphenyl, 3,5-di-tert-butylphenyl, 4-methoxyphenyl, 3-methoxyphenyl, 2-methoxyphenyl, 3,5-dimethoxyphenyl, cyclohexyl or cyclopentyl.

9. Process for preparing the compounds of the formula III, characterized in that the compounds of the formula I are reacted in the presence of a transition metal catalyst and a base either with phosphines of the formula IV



IV

or with zinc and phosphines of the formula V



V

where R^2 and R^3 are as defined above.

10. Process for preparing the compounds of the formula III according to Claim 9, characterized in that the transition metal catalyst used is a nickel catalyst.

092454-08002